Saskatchewan
Mineral Resources

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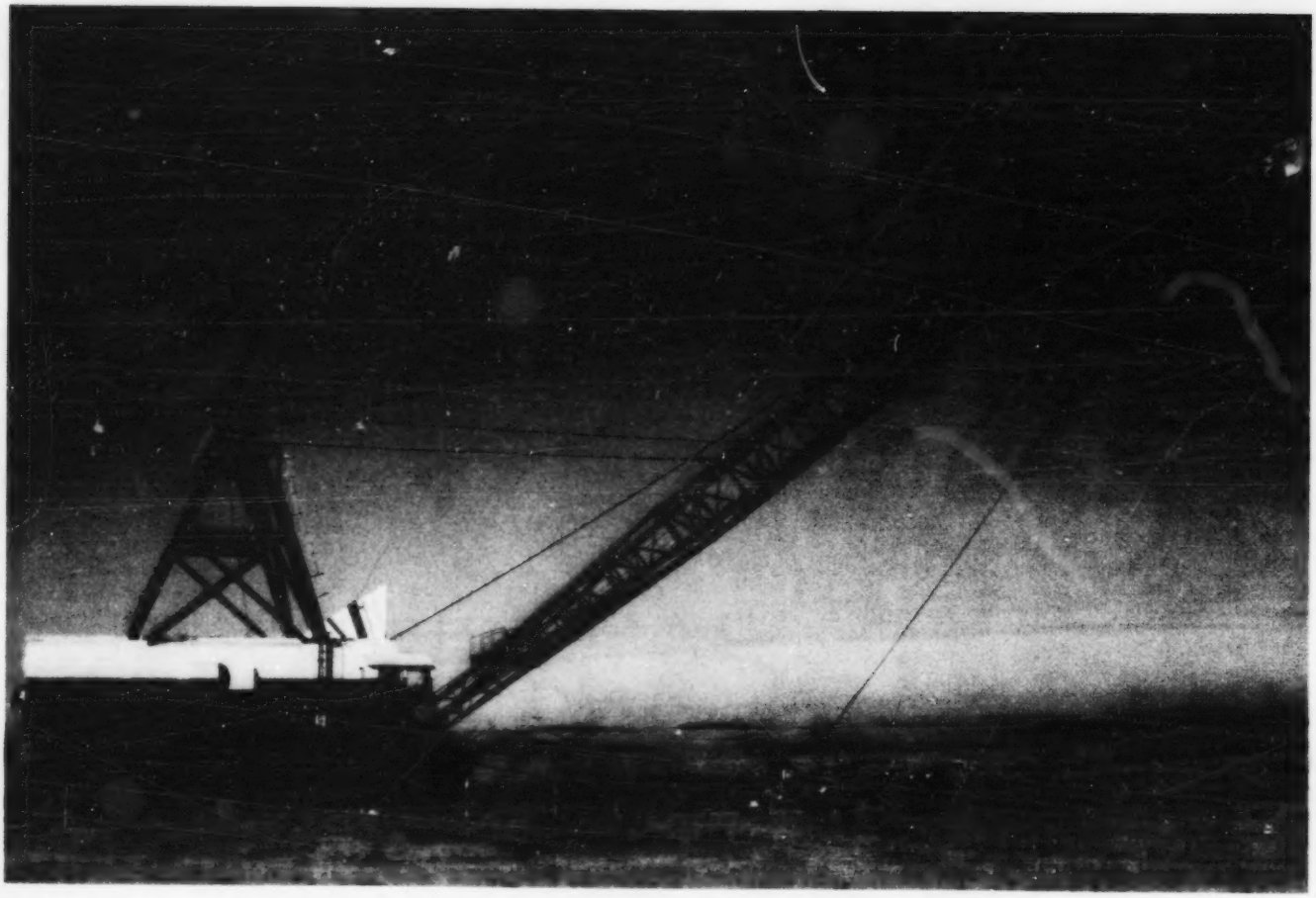
Saskatchewan Coal Policy 1978



Cover: Dragline purchased by the Saskatchewan Power Corporation for coal mining operations at Estevan (photograph courtesy of SPC).

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SASKATCHEWAN
COAL POLICY

Saskatchewan
Mineral Resources
September, 1978

Minister
Honourable John R. Messer

Deputy Minister
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FOREWORD

In the future, Saskatchewan's coal resources will play an increasingly important role in meeting the energy requirements of the province. In addition, it is likely that the demand for Saskatchewan coal from outside the province will increase in order to meet the energy requirements of other jurisdictions. In view of these and other considerations, the Government recognized the need for a comprehensive policy that would enable coal development to proceed in an orderly, co-ordinated fashion in the best interests of the province.

Several stages have preceded the development of the Province's Coal Policy. First, in 1971 a joint Federal-Provincial study was undertaken to assess the quantity and quality of southern Saskatchewan's coal resources. Second, in May, 1973 a moratorium was placed on the disposition of additional Crown coal rights. Third, The Coal Conservation Act was passed in 1976 to ensure that the province's coal resources would be developed in the most appropriate manner. Fourth, an internal Government study was undertaken to assess the potential development of the province's coal resources.

The Saskatchewan Coal Policy is based in part upon these Government studies and upon discussions with members of the coal industry.

This policy document begins with an introduction that provides general background information on the province's

coal resources. The Coal Policy itself consists of several elements under each of the following objectives of the policy:

1) Security of Energy Supply;
2) Economic Benefits;
3) Environmental Protection;
4) Social Benefits;
5) Research and Development.

A section on administrative procedures outlines elements regarding the disposition of Crown coal rights and the licensing of coal mines.

The policy development process, for coal as well as for other mineral resources, is necessarily dynamic. Certain aspects of this Policy may be amended in the future as circumstances change over time. At this stage of the development of our coal resources, however, I feel that this Policy will ensure that the residents of the province achieve the greatest energy, economic, environmental, and social benefits from the appropriate management of Saskatchewan's coal resources.

John R. Messer,
Minister of Mineral Resources.

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INTRODUCTION

Most of Saskatchewan's known coal resources occur in the Ravenscrag geological formation, which lies within sixty miles of the international border. Thick surface-minable coal zones are only found under about 1,500 square miles of the total Ravenscrag area of about 10,000 square miles. The coal resources of southern Saskatchewan lie within four major regions: Estevan, Willow Bunch, Wood Mountain, and Cypress (see map in Appendix A).

The degree of assurance of the existence of coal resources in southern Saskatchewan is based on the spacing or proximity of data control points (boreholes) in relation to each other. Results of a joint Federal-Provincial study of southern Saskatchewan's coal resources indicate that, in terms of strip-minable coal, there are 1.7 billion tons of measured resources; 3.0 billion tons of indicated resources; and 3.8 billion tons of inferred resources (in decreasing order of certainty - see Appendix B). Not all of this resource base is recoverable, however, due to losses in the mining operation. All of southern Saskatchewan's coal resources are of low thermal quality and have a low sulphur content.

At the present time, there are five strip mines in operation in the province, and all of these are located in the Estevan coal basin. In 1977, production amounted to 6,039,162 tons. Of this total, the Saskatchewan Power Corporation

consumed approximately seventy per cent in its thermal electric generating plants. The other major markets for Saskatchewan coal at the present time are thermal electric plants in Manitoba and industrial consumers in Saskatchewan, Manitoba and Ontario.

I. SECURITY OF ENERGY SUPPLY

Appropriate Use Of Coal In Saskatchewan

Coal has the potential of being the most versatile of energy fuels, in that it can be burned directly to produce heat or converted into any of the three major forms in which energy is utilized in Saskatchewan - namely, electricity, petroleum products, and natural gas. Although coal reserves represent the largest single source of energy in the province (approximately 60% of Saskatchewan's useable current energy reserves), coal currently supplies only a small proportion of energy consumed in the province. At the present time, the Saskatchewan Power Corporation's coal-fired generation plants are the principal consumers of Saskatchewan coal.

From the viewpoint of security of energy supply alone, it would be appropriate to substitute provincial coal resources for other less certain energy commodities to meet Saskatchewan's energy needs in the future. This is not to suggest that greater use of coal would necessarily be an objective in each type of energy market when all relevant factors (economic, social, and environmental) are taken into account. For some applications, nevertheless, coal might play an increasing role in meeting Saskatchewan's energy needs on a secure long term basis.

In the case of electricity generation, coal will continue to be the principal fuel. The Government will continue its policy of minimizing the use of refined petroleum products

or natural gas in thermal electric generating plants. The possibilities for major increases in hydro-electric generation will continue to be limited to some extent by environmental, economic, and geographic factors. Moreover, it is unlikely that uranium will be considered as a fuel for electricity generation in the province for a decade or more.

In the case of industrial markets, greater use of coal could help to reduce the province's heavy reliance on other fossil fuels which are supplied in part from outside the province. In this regard, the Government will encourage and work with Saskatchewan industries to evaluate provincial coal supplies as a potential energy source, either in their raw form or in an alternate form of energy.

Greater reliance on provincial coal supplies would assist in the necessary transition away from the province's heavy dependence on relatively scarce energy resources to a greater reliance on renewable and more abundant non-renewable sources of energy. Gasification and liquefaction of provincial coal resources represent an important potential fuel in this regard. The Government will continue to examine these coal conversion technologies for their possible application in the Saskatchewan context.

Coal Exports

As supplies of alternate sources of non-renewable energy (such as oil and natural gas) become more difficult or

expensive to obtain, the demand for coal will increase in order to meet the energy requirements of the province and other jurisdictions. Even though Saskatchewan appears to have sufficient reserves of coal to satisfy its own requirements for many years to come, it is important to ensure a secure supply of coal to meet future provincial requirements and existing export commitments. Furthermore, it is important to ensure that coal in particular locations and of certain types could be reserved for future provincial use.

It is recognized, nevertheless, that there is a trade-off between security of energy supply for the future and economic benefits now through additional coal mining and further processing of coal for the export market.

In order to ensure a secure supply of coal for the province, companies proposing to export Crown coal will be required to obtain approval from the Department of Mineral Resources. Proposals for the export of Crown coal will be assessed on a case-by-case basis. A detailed evaluation of the proposal will be co-ordinated by the Department of Mineral Resources to take into account provincial objectives with respect to coal development. Factors that will be considered in the evaluation include:

1) Saskatchewan demand for coal;
2) Saskatchewan supply of coal;
3) quantity, quality, and location of the coal to be mined; and
4) economic benefits for and costs to the province.

Proponents will be asked to submit information to the Department in order to facilitate evaluation of the proposal.

Several types of export sales will not require a detailed evaluation:

1) existing export commitments;
2) short term or "spot" sales; and
3) small sales.

These exemptions will be defined following discussions with the coal industry.

Assuming that sufficient supplies of coal are safeguarded to meet future Saskatchewan requirements, the Province is prepared to help supply energy deficient areas in Canada or elsewhere when this is consistent with other policy objectives.

Maximum Practical Recovery Of Coal

One important method of helping to achieve security of energy supply is to maximize the recovery of the energy resources in the province.

In the case of coal, this can be accomplished by ensuring that the maximum practical amount of the resource will be recovered in the mining process. As a condition of obtaining or renewing a coal mining license under The Coal Conservation Act, coal producers will be required to provide á mining plan which satisfactorily demonstrates that the producer will recover the maximum practical amount of coal underlying the area to be mined.

In addition, an objective of the Crown coal rights disposition system will be to assist coal producers, where possible and appropriate, to obtain coal rights in areas adjacent to their mining operations. This will help to ensure that blocks of coal are not by-passed in the mining process, such that these blocks could not be recovered economically in the future.

In the future, recovery of the coal resources may be improved with technological advances such as in-situ gasification of deeper coal seams. Additional research and development on coal recovery technology, therefore, will help to improve the province's security of energy supply.

Coal Supply And Demand Information

An important component of security of energy supply is adequate knowledge of the energy resource base, as well as future demands for that resource.

On the supply side, several measures already have been taken to improve the knowledge of provincial coal resources. In 1971, a major study of southern Saskatchewan's coal resources was undertaken in co-operation with the Federal Government and the Saskatchewan Research Council. The main objectives of this study, "Coal Resources of Southern Saskatchewan", were to determine the geology of the Ravenscrag Formation (the principal coal-bearing formation in the province) and to determine the quantity and quality of the major coal deposits. During 1972 and 1973 over 200,000 feet of drilling and logging were completed in over

700 boreholes, and about 5000 coal samples were recovered.

The cost of this study is estimated to be about two million dollars. The scope of the study, the detail of the results, and the versatility of the computerized data base are unprecedented in Canada in terms of coal resource evaluation.

The Federal-Provincial study provides an excellent data base for further evaluation of provincial coal resources. Potential areas for further research include assessments of the quality and recoverability of the coal.

This data base will be expanded as a result of the additional information that coal producers will be required to submit on the exploration, development, and mining of Saskatchewan coal. This will permit the periodic re-assessment of the quantity and quality of coal resources in Saskatchewan.

On the demand side, the Department of Mineral Resources is expanding its efforts in the area of forecasting provincial demand for coal in conjunction with its forecasting of total provincial energy demand. As a result, the Province will acquire a better understanding of the role that coal plays in the energy system. This improved understanding will aid the Government in determining:

1) the types and quantities of coal needed by Saskatchewan in the future;
2) the types and quantities of coal that may be in excess of the province's requirements;

3) potential situations where coal could be substituted for more scarce non-renewable resources; and

4) areas for improving the conservation and efficient use of coal in the province.

II. ECONOMIC BENEFITS

Public Revenues

Obtaining appropriate public revenues from coal resources represents an important means of ensuring that adequate economic benefits accrue to Saskatchewan residents from the development of these resources.

A new royalty of 15% of the minehead value of coal will be levied on coal produced from Crown mineral rights.

A property tax will be levied on the owner of freehold coal rights. The tax calculation will be a three-stage process. First, an assessment will be made of the fair present value of the coal reserves in place. The second stage will consist of the posting of assessments and appeals to those assessments, if any. The final stage will involve the striking of a mill rate, to be assigned to the assessments as finally determined, by the Lieutenant Governor in Council.

This new revenue system is designed to provide the province with a fair return for the disposition of its coal resources, without unduly affecting the economic viability of the industry. Full consideration has been given to the structure and characteristics of the Saskatchewan coal industry in designing the new system.

Further Processing Prior To Export

In order to increase the economic benefits from the

development of the province's non-renewable resources, the Government requires these resources to be further processed within the province to the maximum practical extent prior to export in situations where this would not conflict with environmental or social objectives.

At the present time, almost all of Saskatchewan's coal exports are in the form of raw or unprocessed coal. In the future, a large proportion of the export demand for Saskatchewan coal could be for purposes of converting this coal to other forms of energy such as electricity, substitute natural gas, and liquefied fuels. It will likely be more economic to convert the coal to these other energy forms at the location of the coal resources.

For new coal development projects, coal producers will be requested to outline the extent to which further processing would be undertaken within Saskatchewan.

Companies proposing to export raw Crown coal from the province will be required to demonstrate why the coal cannot be further processed prior to export. Such proposals may be denied if the Government is not satisfied that the Crown coal cannot be further processed within the province.

The Government will work with coal producers in identifying situations where coal might be upgraded within the province prior to export.

Saskatchewan Content In Coal Development

The economic benefits derived from coal development can also be increased by the maximum practical use of goods and services supplied by firms located in Saskatchewan.

As a condition of obtaining or renewing a coal mining license under The Coal Conservation Act, producers will be required to provide information regarding the extent to which the goods and services which they purchase will be obtained from Saskatchewan sources. It is not intended to create "economically artificial" situations under this policy, but rather to improve, where possible, the market/information system. The Government will work with producers to ensure that opportunities for purchasing goods and services within Saskatchewan are known and utilized to the maximum practical extent.

Where goods and services that are required by the coal industry are not currently available from within Saskatchewan, the Government will encourage firms to locate in the province in order to supply the needs of coal and other resource producers.

If it is not practical to obtain certain goods and services from Saskatchewan sources, the Government will encourage coal producers to utilize Canadian sources for these items in coal development.

Transportation

The Government recognizes that the marketability of

Saskatchewan coal is greatly affected by the transportation system, both in terms of reasonable freight rates and adequate service. At the present time, the rail system is the dominant mode of transportation used by Saskatchewan coal producers for shipping coal out of the province. Coal consumed within the province by the Saskatchewan Power Corporation is moved by truck from the mine to the generating plant.

The level of freight rates has a direct bearing on the value that is received for the province's coal. The Government does not support the establishment of freight rates based on "what the market will bear". In the case of Saskatchewan coal shipped to markets in Ontario at the present time, transportation more than doubles the delivered cost of the product.

As increased volumes of Saskatchewan coal are delivered to eastern markets in the future, it will be important to ensure that the capacity of the transportation system is adequate to enable these increased volumes to move to market.

In the future, alternative methods of transportation such as slurry pipeline may become important transportation methods for Saskatchewan coal.

The Province will work with coal producers to minimize any difficulties which they may experience in matters of coal transportation. In this context, the Province will make any appropriate representations on these matters, in co-operation with the coal industry, to the Federal Government in order to

serve the interests of the province and the industry.

Crown Corporations

Public sector involvement in the coal mining industry provides the Government with a better understanding of the industry and, therefore, a better ability to plan the development of Saskatchewan's coal resources in the best interest of the province. It may also assist a major user of coal, such as the Saskatchewan Power Corporation, to obtain supplies of this commodity in a more appropriate fashion.

The Saskatchewan Power Corporation (SPC) currently mines coal which supplies part of the fuel requirements of its Boundary Dam electrical generating station near Estevan. In 1979, SPC will significantly increase its coal mining operations in order to supply the first unit of the Poplar River generating station near Coronach. In the future, it is expected that any additional Crown involvement in coal mining will be determined on a case-by-case basis.

Coal also serves or may serve as a feedstock material for other energy forms (e.g., electricity, substitute natural gas, or liquid petroleum fuels) or petrochemicals. The Saskatchewan Power Corporation will continue to be the principal producer of coal-based electricity in the province. In the case of other major coal-based developments (outlined above), the Government will reserve the right to undertake such projects on its own and/or in participation with private sector companies.

III. ENVIRONMENTAL PROTECTION

Environmental Impact Assessment

The purpose of the Environmental Impact Assessment (EIA) policy is to provide a mechanism for obtaining information about environmental, economic, and social parameters, as well as public opinions and concerns, before final decisions are made as to whether a project proposal should be implemented, modified or abandoned. The EIA process also identifies the potential adverse environmental impacts of a project and thereby enables advance planning of suitable environmental protection measures to reduce or eliminate these impacts.

The main elements of the EIA policy are as follows:

1) The EIA policy applies to all development proposals which would:
   a) have a major impact on a specific geographic area;
   b) necessitate significant commitments of provincial resources; or
   c) arouse widespread public concern or controversy.
2) The responsibility for administration of the EIA policy rests with Saskatchewan Environment. The Department is advised by an interdepartmental Review Panel, whose functions are to screen proposals, to determine the terms of reference for environmental impact statements, and to review the completed statements for completeness and accuracy.
3) The responsibility for carrying out an environmental

impact assessment lies with the proponent. A proponent is defined as any individual, private developer, Crown corporation, or government agency that puts forward a proposal for a project with environmental implications.

4) The environmental impact assessment must be carried out in accordance with guidelines and procedures specified by Saskatchewan Environment.

5) Public participation is considered an essential part of the EIA policy. Projects which are exempted from the EIA procedure, all overview and detailed environmental impact statements accepted by Saskatchewan Environment, and the results of all public inquiries held under The Department of the Environment Act will be made public. Public hearings will probably be held if the development has major environmental implications or if the public indicates a strong and widespread desire for public hearings.

Based on the above elements, it is expected that most coal related developments will require an assessment. However, a decision as to whether an assessment is necessary and the type of assessment (if required) can only be made after a review of the project proposal. At this time, it can be expected that overview assessments and possibly detailed assessments will be required for strip-mining activities. It is likely that detailed assessments will be required for major energy related projects such as thermal power, gasification, and liquefaction plants.

Land Reclamation

Most of Saskatchewan's coal reserves underlie land which is used for a variety of productive purposes, such as agriculture, recreation, and wildlife habitats.

Strip-mining of the coal without adequate land reclamation causes a major disruption of the existing environmental conditions at the mine site, and can have complex and far-reaching effects off-site as well. The short growing season and relatively harsh climate of southern Saskatchewan make natural reclamation a slow and uncertain process. As a result, use of the land for other purposes may not be possible for a relatively long period of time.

In view of these circumstances, the Government recognizes that strip-mining operations in Saskatchewan must have reclamation programs which will return the land to productive use.

Requirements for the rehabilitation of land following coal mining are currently being handled through the Environmental Impact Assessment process. Saskatchewan Environment, in consultation with other Government departments, is developing reclamation guidelines which will apply to all coal mining operations within the province. These guidelines will be based on the reclamation work that has been carried out by the coal industry in Saskatchewan, on the recommendations in the report of the Poplar River-Nipawin Board of Inquiry, and on reclamation work carried out in other jurisdictions.

It can be assumed that the following major considerations will be included in the final set of reclamation guidelines:

1) The practice of leaving spoil banks without any further treatment (for example, in some parts of the Estevan area) is unacceptable to the Government. Consequently, some degree of reclamation will have to be carried out for future mining operations.

2) The degree to which land will be reclaimed, as well as the type of reclamation techniques that will be employed, will vary from location to location because of such factors as differences in soil, land form, climate, and the desirability of a given land use.

3) Provision will be made to include local input on desired reclamation goals and levels while the reclamation study is in progress. Provision will also be made for local community review of the reclamation plans which are developed after the study is completed.

4) The objective of reclamation plans will be to employ reclamation practices which will allow a stabilization of the soils and will achieve a self-sustaining state from an ecological point of view so that the land may be returned to a productive state as soon as possible. In some cases, a coal producer may be required to modify his mining plans or techniques in order to facilitate reclamation of the land. Examples of such techniques would include selective placement of overburden,

segregation of unsuitable overburden materials, and the use of alternative mining equipment.

5) Costs of reclamation will be the responsibility of the coal producer.

6) Reclamation will be carried out concurrently with mining operations.

IV. SOCIAL BENEFITS

Community Impact Assessment

The economic base of most of the communities in the coal development regions is founded on providing services to the agriculture industry. The employment provided by coal-related developments will assist in diversifying and thereby, stabilizing the economic base of such communities. Accordingly, the Province will direct that all urban activity related to coal development be focussed on existing communities. The concept of "new towns", therefore, will not be entertained in the southern portion of the province.

The community impact assessment process will determine which existing community or communities will become the locus for coal-related activity. The assessment of proposed coal developments will be carried out within the administrative context of the Province's Environmental Impact Assessment process.

General content guidelines for community impact assessments have been developed. The Department of Municipal Affairs, Urban Development Branch, however, will meet with the proponent and/or his consultant to detail the requirements for each assessment and to indicate which urban communities and/or rural municipalities should be the subject of the assessment. A contact person in the Urban Development Branch will be named to monitor the completion of the assessment and to provide assistance on an "as needed" basis.

The proponent will be responsible for the costs involved in carrying out a community impact assessment. In some cases, there will be community and regional impacts which can only be adequately determined by the Provincial Government. The Department of Municipal Affairs will undertake to assess these impacts and recover the study costs from the proponent. The need for such joint assessments will be determined on an individual basis.

Development Agreement

After reviewing the completed community impact assessment, the Minister of Municipal Affairs will determine whether the impacts are of sufficient magnitude and of such a nature as to require a formal development agreement. The purpose of a development agreement is to formalize responsibility for implementing the specific recommendations made in the community impact assessment. In most cases, the parties to the agreement will be the affected urban and/or rural municipality, the Province and the proponent. While each and every detail cannot be worked out in advance, a broad allocation of financial and other responsibilities between the parties is both necessary and possible.

The items covered in the development agreement will vary in scope and detail, depending upon:

1) the specific characteristics of the proposed project;
2) the specific characteristics of the communities and/or rural municipalities affected; and
3) whether the agreement covers the construction and/or the operating phase of the project.

Co-ordinating Committee

Inevitably, there will be community-related impacts and issues which will not be foreseen during the preparation of a community impact assessment. This will be particularly true once construction of the project has commenced. In order to ensure that such issues are addressed and that there is continuing communication between the community, the proponent and the Government, a co-ordinating committee will be formed at least one year prior to construction. The committee members will be: The Department of Municipal Affairs (Chairman); a community representative; and a representative of the project proponent. Representatives from other Government agencies/departments, other affected communities or rural municipalities and labour unions will be added if and when warranted. The function of the committee will be threefold:

1) to review and, if necessary, to alter the development agreement discussed above;
2) to guide and monitor the implementation of those recommendations in the community impact assessment which are not amenable to inclusion in a formal development agreement; and
3) to develop more specific actions where required as unforeseen needs emerge. This may include making additions to the formal development agreement.

Provincial Response

The Department of Municipal Affairs has a number of

special legislative provisions which can be used to assist communities in accommodating the impacts of a coal-related project. The enactment of a Special Planning Area, as provided for in The Planning and Development Act, would make possible planning and implementation on an inter-municipal basis. The designation of certain towns or villages under The Industrial Towns Act would permit extra-ordinary financial and administrative assistance.

Whether or not these provisions will be enacted will depend on the nature and extent of the specific coal-related project and upon the characteristics of the urban and rural municipalities involved.

Occupational Health And Safety

The health, safety, and welfare of workers at coal mines is protected by The Occupational Health and Safety Act, 1977 and regulations thereunder. The Act is administered by the Occupational Health and Safety Branch of the Department of Labour.

The primary responsibility for identifying and resolving concerns related to occupational health and safety lies with joint labour-management Occupational Health Committees, which are required to be established at all work places where ten or more persons are employed. The employer is required to consult and co-operate with the Committee in the resolution of problems of health and safety.

Occupational Health Officers of the Department of

Labour conduct regular inspections at all mines. They work with the Committees to ensure compliance with the Act, and the standards and work practices prescribed in regulations.

An important feature of the Saskatchewan approach to occupational health and safety is the right given to workers to make complaints to or work with the Occupational Health Committee without any fear of discriminatory action or retaliation by employers. In addition, an individual worker has the right to refuse to do any job which he reasonably believes to be unusually dangerous to his health or safety, or to the health or safety of other persons at the place of employment.

Department personnel assist Committee members by carrying out training programs related to occupational health and safety.

Manpower Planning

The development of Saskatchewan's coal resources will have the effect of providing employment and career opportunities for the residents of the province. Major coal developments, therefore, should be consistent with Provincial manpower policy. The four major objectives of this policy are:

1) To maximize the opportunity of provincial residents for participation and productive involvement in the Saskatchewan economy;
2) To develop an income distribution that rewards participation and meets income needs;

3) To contribute to the self-development and social development functions of individuals and communities through an improvement in the quality of working life;
4) To promote the economic development of the province by facilitating the availability of an adequately skilled and motivated labour force.

It is expected that the coal industry will co-operate with trade unions, professional associations, and the Provincial Government to ensure that Saskatchewan residents are provided with the opportunity, through training, education, and experience, to qualify themselves for the employment opportunities resulting from coal development.

In order that employment and career opportunities resulting from coal development are made available to and kept reasonably stable for Saskatchewan residents, coal producers will be required to give advance notification to the Department of Mineral Resources of major changes in projected manpower requirements. This will enable the Province to implement appropriate measures to ensure an adequate supply of trained manpower in the case of increased requirements, and to review with the producer appropriate measures to reduce or alleviate significant reductions in the mining work force.

V. RESEARCH AND DEVELOPMENT

Coal Research And Development

The Government has been actively involved in research and development (R and D) efforts related to Saskatchewan coal and its end-uses. The objective of these efforts has been to examine problems which contribute a major obstacle to the discovery, recovery, transportation, conversion or final use of coal in Saskatchewan. Several departments and agencies have been involved in these R and D activities.

One of the areas which the Saskatchewan Power Corporation has been examining closely is the conversion of coal to other forms of energy. A major study has been completed on the production, transmission, and industrial utilization of medium thermal content gas and substitute natural gas based on Saskatchewan coal. Another study examined advanced electric power generation techniques with a view to reducing the water requirements of this conversion process and lessening its thermal impact on the air and water surrounding the electricity generating station.

The Saskatchewan Research Council has been involved in the research and development of Saskatchewan coal and its uses in a number of areas. Studies have been carried out to evaluate the technical feasibility of transporting coal by slurry pipeline. The Research Council has also been actively involved in the Federal-Provincial study "Coal Resources of Southern

Saskatchewan".

Co-ordination of Research and Development

As part of the Government's management of the province's energy resources, the Department of Mineral Resources is establishing a capability for the co-ordination of energy research and development efforts within the Government. This will provide a central focus for energy R and D activities to ensure that, from a provincial point of view, all relevant options are being considered.

Research and development work related to coal within Saskatchewan and elsewhere will continue to be monitored in order to keep abreast of existing research. Additional coal R and D activities will be undertaken in areas where Saskatchewan could make a significant contribution. The Province will work closely with the Federal Government, other provinces, the universities, and industry in order to maximize the return on expenditures made for research and development.

Future Areas of Research

Research into the province's coal resources will be continued in order to improve our knowledge of the resource. Further research is needed to determine the quantity of the resource that can be considered economically recoverable. Advanced methods of recovering coal, such as in-situ gasification of deeper coal seams, will help to maximize the recovery of the resource. In addition, the adverse environmental effects of coal mining may

be mitigated to some extent through further research into reclamation practices.

The conversion of coal to other forms of energy, such as substitute natural gas and liquefied petroleum fuels, would permit coal to be substituted for scarcer fossil fuels. Additional R and D is needed in this area to improve the technical and economic feasibility of these coal conversion technologies.

Reduced transportation costs would improve the marketability of Saskatchewan coal. Methods to reduce the high moisture content of Saskatchewan coal could help to minimize transportation costs. In addition, coal slurry pipelines may prove to be an economically viable alternative to rail transportation.

VI. ADMINISTRATIVE PROCEDURES

Disposition Of Crown Coal Rights

Prior to May, 1973, Crown coal rights were issued on a first come-first served basis. This system was in effect during a period when the Saskatchewan coal industry experienced relatively limited demand for its product. As a result of increasing costs for other fossil fuels, however, the market potential for coal is changing considerably.

In recognition of this changing situation in the energy industries, the Government placed a moratorium on the disposition of additional Crown coal rights, with the exception of additional coal rights required for existing mining operations. This moratorium was an interim measure until studies of the province's coal resources and coal development options could be completed.

As part of the Province's new Coal Policy, the Crown coal rights disposition system is being changed to better reflect the present and future circumstances of Saskatchewan's coal resources and industry. An important feature of the new disposition system will be to ensure that desirable coal development options in the future, which may require the use of certain types or locations of coal, will not be foreclosed to the province. The system will be applied, therefore, in a manner which will discourage any unnecessary holdings of Crown coal rights.

The new system will provide for the review of

applications for exploration permits and production leases by the Department of Mineral Resources to ensure that coal rights are granted only in the case of applications which are based on reasonably firm expectations of development. In the case of applications for permits to explore, the applicant will be required to submit a general statement of development plans. In the case of applications for a lease, the applicant will have to demonstrate to the Department's satisfaction that the coal will be required for planned mining operations. When a permit-holder applies to go to lease, he will be accorded a preference vis-a-vis other possible applicants for a lease governing the same coal rights.

Existing leases will be renewed automatically at the option of the lessee if the coal under lease is part of a logical mine unit which is under production. Otherwise, applications for the renewal of leases will be treated on a similar basis as applications for a lease by a permit-holder.

The term of new or renewed leases will be not more than fifteen years.

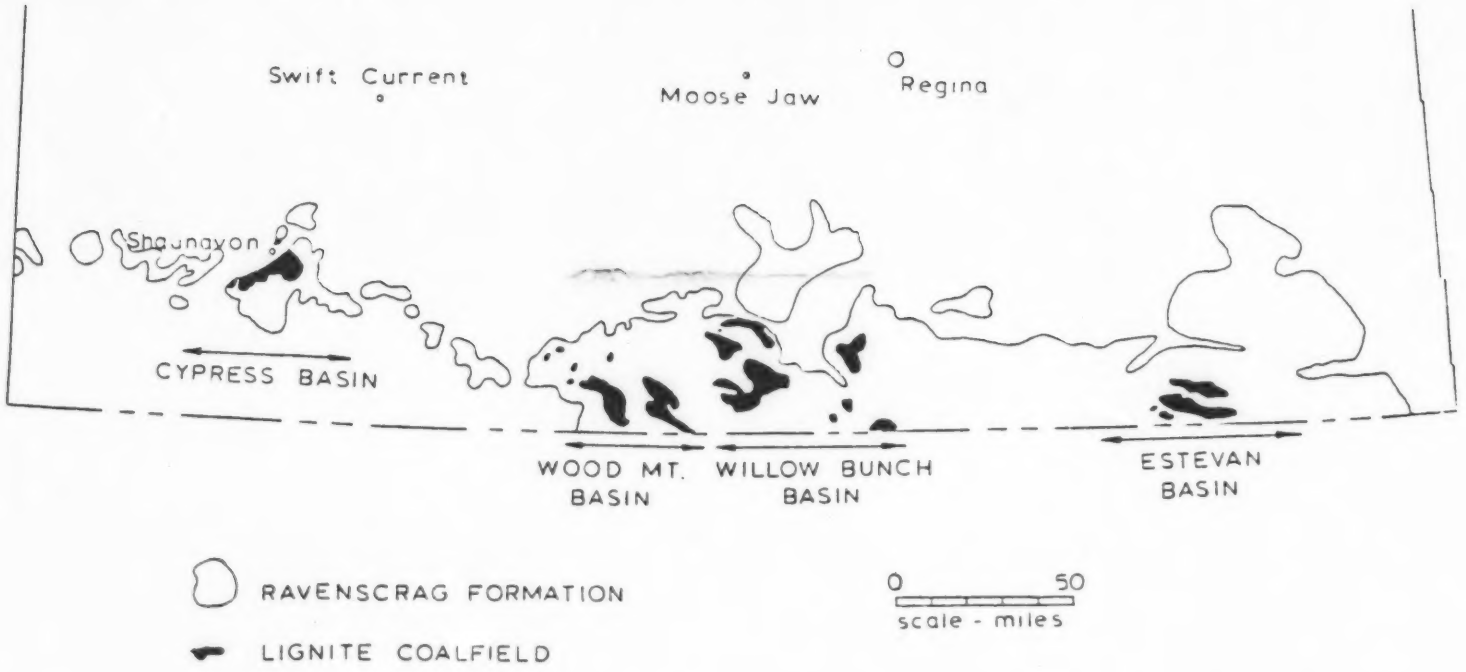
An additional feature of the policy respecting the disposition of Crown coal rights will be an increase in the annual rental for coal mining leases from the present one dollar per acre to two dollars per acre.

Licensing Of Coal Mines

The Coal Conservation Act provides the authority for implementing several elements of the Coal Policy that are not covered under other legislation or other means of implementation. The issuance and renewal of coal mining licenses under the Act will be conditional upon the applicant complying with various elements of the Coal Policy, including the following:

1) maximum practical recovery of coal;
2) coal supply and demand information;
3) Saskatchewan content in coal mining;
4) environmental impact assessment;
5) community impact assessment;
6) manpower planning.

Regulations will be established governing the reqirements that applicants must meet in order to obtain a coal mining license. The Act prohibits the carrying on of any coal mining operations which are not licensed under the Act.



APPENDIX A

Map of the Coal Resources of Southern Saskatchewan

APPENDIX B

Degree of Assurance of Coal Resource Estimates

The following terms denote the degree of accuracy with which given quantities of resources have been estimated in the Federal-Provincial coal evaluation study:

1) Measured resources - quantities of coal which are deemed to occur less than or equal to one quarter mile from a borehole;
2) Indicated resources - quantities of coal which are deemed to occur more than one quarter mile but less than or equal to one half mile from a borehole;
3) Inferred resources - quantities of coal which are deemed to occur more than one half mile but less than or equal to one and one half miles from a borehole.